CS Market Research: Brazil

Intermodal Transportation Development in Brazil January 2006

Summary

Global economic forecasts indicate that trade between North America and Latin America will increase significantly in coming years. Merchandise trade, alone, is expected to more than double, from 260 million tons to 560 million tons, by 2020. Coordinated policies to promote efficient and secure hemispheric trade transport will be needed to accommodate this growth. These policies must consider many factors, including the degree of national infrastructure development and intermodal system connectivity, technology deployment, institutional arrangements to support trade transport development, and effective cargo and vessel security systems, among others.

CS Brazil expects to see an increased focus on expansion and modernization of the railroad infrastructure in Brazil in the coming years. While Brazil has traditionally relied less on railroads for the transport of freight and passengers than other countries, its determination to develop the interior, the fact that Brazil's agricultural products and commodities are best served by rail, and the political impediments faced in improving roads, all bode well for increased investment in this sector. We see opportunities for direct exports to Brazil, both in new and reconditioned equipment, and for foreign direct investment in railroads, equipment, and logistics services.

Brazil has roughly 1.5 million km of highways, the 12th largest road system in the world, but only a little over 10% are paved. However, an ongoing privatization program is gradually bringing investment to the main cargo and passenger routes, with substantial upgrading of service quality.

Excluding waterways, rivers and coastal shipping, 75% of the country's cargo is transported on highways, suggesting substantial inefficiencies, although railroads are gradually winning back heavy, long-distance freight.

Through the end of 1999, state and municipal privatization programs had granted 39 concessions with investment commitments of US\$6 Billion. In this first stage some 10,000 kilometers of federal and state roads were turned over to private operators.

Private companies operating 39 highway concessions invested US\$700 million through 2000. This amount represents 12% of the investment required until the end of the concessions, which is 20 years on average.

Privatized highways are safer now and offer more service to users, long stretches of highways have been re-paved and signs have been recuperated.

Operators aim to incorporate modern technology into the network system, to reach European and U.S. interstate highway benchmarks.

Brazil's railroad sector was privatized in the mid-1990's and freight shipment by rail has increased, on average, 20% since that time. As well, railroad billings have increased 75% and more than US\$ 500 million has been invested in the recuperation of permanent ways and the refurbishment and purchase of rolling stock.

The type of freight being shipped is also changing. Now food and beverage pallets, containers, paper and pulp and even automobiles are being shipped by rail. In order to achieve this, new specialized rolling stock was purchased and terminals were improved.

Until 1990, Portobrás - Empresa Brasileira de Portos S.A. the Federal Government-owned ports company was responsible for managing all Brazilian public ports. Portobrás controlled all public port administration, defined budgets, forecasts, and allocations, tariff and personnel policies as well as decisions concerning new investments. Upon the demise of Portobrás, the Brazilian public port system was restructured into (1) eight Federal Government-owned Companies in various Brazilian States (the current local Port Authorities); (2) five State concessionaires; (3) and one private port concession. In February 1993, the so-called Modernization Law (Law 8,630/93) was implemented, completely decentralizing, deregulating and reducing State control of the sector. According to this Law, the port sector was to be managed through the issuance of tenders for the leasing of terminals and other port facilities, and the establishment of private concessions.

The ports of Rio de Janeiro (RJ), Santos (SP) and Rio Grande (Rio Grande do Sul) have become important container terminals with container gantry cranes for loading/discharging 20' and 40' containers. They are all equipped with mobile machines for handling containers, extensive paved yards for stacking and storage, and have easy access to rail and road transport. The port of SUAPE Industrial Complex, located in the eastern-most part of Brazil, has one of South America's most important deep-water ports that is able to dock vessels up to 170,000DWT and an operational dept of 14,5 meters.

Ports such as Fortaleza, Salvador, Ilheus, Vitoria and Paranagua also handle large numbers of containers with conventional shore cranes and/or ship's gear. Some have specific berths with priority for container vessels, but they are as yet without container gantry cranes, though they do have mobile equipment for handling the container units on shore.

Business Opportunities. A number of business opportunities are available for international companies interested in supplying the growing demand of Brazil's transportation infrastructure. The Brazilian Government identified a set of actions to settle the intermodal demands presented by the society.

Investments by Region

All of Brazil's five geographic regions are scheduled to receive major investment in infrastructure by the Federal Government of Brazil in 2006.

Highway Infrastructure

In the transportation sector, the Government seeks to give priority to the improvement of highways in order to improve traffic safety and also to reduce vehicle operational costs. In Brazil, 25,000 kilometers of national highways are considered to be in bad condition; about 9,000 kilometers of these roads are scheduled for repaying in 2006.

The Government intends to improve mainly those roads with heavy traffic and which will benefit the transportation of commodities for domestic supply as well as for exports.

River Transportation

With respect to transportation via rivers, the Government will pursue the implementation of projects that will allow the use of multimodal transportation along the nation's major rivers.

To provide the cities in the interior of the state of Amazonas with an adequate transportation infrastructure, the Government plans to build port terminals benefiting a significant number of municipalities in the region. To improve port operation, as well as to make international trade more competitive and safer, the Government will continue to adjust the Brazilian port system to the ISPS Code - "International Ship and Port Facility Security Code". The Government plans to implement projects that will make the Brazilian gateway ports more efficient. Specific funds will be allocated for the elaboration of feasibility studies that support projects for the dredging of ports and when required, the concession of port facilities.

Railroad Transportation

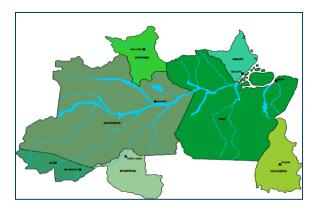
To improve the passenger rail system and subsequently transfer its administration to state or municipal authorities, the Federal Government intents to intensify its works on the passenger rail system in a number of major metropolitan areas.

As for the freight rail sector, the Government plans to continue the construction of the Ferrovia Norte-Sul Railway. Also, in order to improve public safety and metropolitan areas, the Government plans over the medium term, to build a number of alternative rail routes around major metropolitan areas in the Southern and Northeastern regions of the country.

Northern Region

Brazil's Northern Region is comprised of the states of:

- Acre.
- Amazonas.
- Rondonia.
- Roraima.
- Pará.
- Amapá.
- Tocantins.



Northern Region - Ports

The Government is making an extra effort to provide the cities of Cacau Pirera, Boca do Acre, Coari, Eirunepe, Itacoatiara, Manacapuru, Manaquiri, Manicore, Maues, Nhamunda, Novo Airao, Porto Velho, Sao Raimundo, Tabatinga, Tefe, Urucara, and Manaus, in the State of Amazonas, with port infrastructure in order to provide greater safety for loading and unloading of passengers and cargo using river transportation as well as to achieve greater levels of fiscal / tax control.

Major Investments – Northern Region	US\$ Million
Construction of River Docking Terminals in the State of Amazon	17.0
Construction of a Section of Highway BR – 319/AM, Manaus - State Line AM/RO	39.1
Construction of a Section of Highway BR-317/AM- Boca do Acre - State Line AM/AC	4.5
Construction of a Section of Highway BR – 364/AC, Sena Madureira - Cruzeiro do Sul	21.7
Construction of a Section of Highway BR – 401/RR, Boa Vista – Bonfim - Normandia (Border w/ French Guyana)	3.0
Construction of a Section of Highway BR-156/AP, Ferreira Gomes - Oiapoque (Border w/ French Guyana)	8.7
Construction of a Bridge Over the Oiapoque River – Binational, on Highway BR-156,in the State of Amapá	1.3
Construction of a Bridge Over the Itacutú River - on Highway BR-401/RR	4.5
Construction of a River Lock on the Tucuruí River (Araguaia-Tocantins Corridor)	18.8
Construction of the Ferrovia Norte-Sul Railway - Aguiarnópolis - Babaçulândia - State of Tocantins	48.3
Rebuilding of Various Highway Sections	19.0
Construction of a Highway Section - Itaituba - Altamira - Marabá - State line TO/PA - BR-230 - State of Pará	13.0
Companhia Docas do Pará - Feasibility Study and Rationalization of Port Operation and Environment Control	0.4
Total	199.3

Northern Region - Highways

Major highway transport projects include the construction of Highways BR - 319/AM, Manaus, AM/RO, BR-230/PA, Itaituba, TO/PA, 364/AC, Sena Madureira — Cruzeiro do Sul, BR - 401/RR, Boa Vista - Bonfim - Normandia (border with the Guyana).

These projects are part of the Programa de Integração da Infraestrutura da Região Sul Americana - IIRSA (South American Regional Infrastructure Integration Program). This program also includes the construction of the bridges over the Oiapoque River, on the Highway BR-156, in the State of Amapá, over the Itacutu River, on highway BR - 401/RR, as well as the construction of a stretch of the BR-156/AP, Ferreira Gomes – Oiapoque on Brazil's border with French Guyana.

Northern Region - Waterways

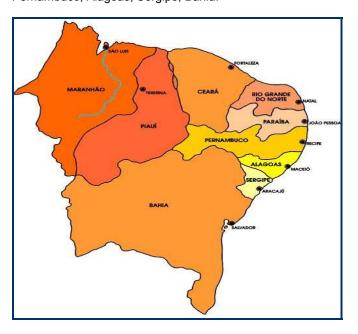
The federal government plans to reestablish the navigability of approximately 700 km in the rivers Araguaia-Tocantins, which was interrupted by the construction of the Tucurui Power Plant Dam, the Government will build two canal locks and an access canal.

Northern Region - Railroads

Brazil seeks to conclude the construction of the Ferrovia Norte-Sul Railway - Aguiarnopolis - Babaçulandia - in the State of the Tocantins, which is intended to promote interregional integration in order to minimize costs of transporting mineral, agriculture and forestry products (North to South) and fuel, fertilizers and general cargo (South to North).

Northeastern Region

Brazil's Northeastern Region is comprised of the following states (from North to South following the Atlantic coast): Maranhão, Pauí, Ceará, Rio Grande do Norte, Paraíaba, Pernambuco, Alagoas, Sergipe, Bahia.



Northeastern Region - Railroads

To improve metropolitan rail systems and then transfer them to local authorities, the Federal Government is intensifying its works in progress in the city of Salvador, BA. The Federal Government is also building a new belt line in Sao Felix County (BA) and Cachoeira County (BA) in order to improve both public safety and rail efficiency.

Northeastern Region - Highways

To enhance safety and reduce the costs of transportation on the region's highway network as well as to intensify the development of the tourism in the northeastern region, the Government plans to invest in the recuperation of Highway BR 101 linking the states of Rio Grande do Norte, Paraiba, Pernambuco and Sergipe.

Northeastern Region - Ports

A number of ports in the Northeast have suffered deterioration due to saltpeter. The Government plans to invest in order recover the Area Branca terminal infrastructure.

The government also plans on constructing a fourth wharf at the Port of Suape Industrial Complex (PE).

In ports in the states' of Bahia, Ceará, and Rio Grande do Norte, the Government is scheduled to invest in environmental protection projects and feasibility studies for the deepening of access canals and basin evolution, as well as the construction of adjacent terminals.

Major Investments - Northeastern Region	US\$ Million
Mass Transit Urban Transportation Systems	130.4
Urban Transportation System In the City of Salvador - Bahia	3.4
Expenses to Transfer the Metro System Administration to the City of Salvador - Bahia	36.5
Implementation of the Fortaleza Metro System	17.4
Modernization of Urban Metro System in the City of Fortaleza - CE	4.4
Transference of the Administrartion of Urban Transportation System to the City of Fortaleza - CE	24.8
Ports	24.8
States of Bahia, Ceara and Rio Grande do Norte Port Authorities - Feasibility Studies and Rationalization Project of Port Operation and Environment Protection	4.3
Re-dimensioning of the Ship's Docking System at the Saltpeter Terminal of Areia Branca - RN	9.9
Construction of Warf # 4 in the Suape Port	13
Highway Works	75.4
Re-dimensioning and Highway Increasing Capacity	133.8
Re-dimensioning the Highway Section - Natal - State Line RN/PB - BR-101 - in the State of Rio Grande do Norte	38
Re-dimensioning the Highway Section- State Line PB/RN - PB/PE - BR-101 - In the State of Paraíba	37.9
Re-dimensioning the Highway Section- State Line PB/PE - PE/AL - BR-101 – in State of Pernambuco	53.1
Re-dimensioning the Highway Section - State Line AL/SE - SE/BA - BR-101 – in the State of Sergipe	4.8
Railroad Transportation	13.1
Construction of the Railroad Detour - City of São Felix - in the State of Bahia	13.1
TOTAL:	377.5

Southeastern Region



Brazil's Southeastern Region is Brazil's most populous region and is comprised of the following states (by order of population):

- São Paulo.
- · Minas Gerais.
- Rio de Janeiro.
- Espírito Santo.

The region also contains Brazil's three most populous cities, Sao Paulo, Rio de Janeiro and Belo Horizonte.

Southeastern Region - Highways

One of the most important projects in this region is the duplication of BR - 381/MS/SP, Fernão Dias. The highway will also be extended beyond Belo Horizonte to the city of Governador Valadares, Minas Gerais.

The Government also plans on duplicating highway BR 050 from Uberaba to Uberlandia, Minas Gerais, in order to establish a transportation corridor that can meet the present demand of traffic that passes through the Minas Gerais panhandle. This corridor is heavily used due to the transportation of agriculture and industrial products between the states of São Paulo, Minas Gerais and Goias. This highway also complements the interconnection of other major highways and railroads in this region.

Construction of the Rio de Janeiro Belt Line around the city will facilitate the transportation of goods to and from the Port of Sepetiba. It will also complement the existing emergency escape route for the region near the nuclear power plants of Angra dos Reis, connecting federal highways BR-101 (Rio - Santos), BR-116 (Via Dutra), and the BR-040 (Rio-Juiz de Fora).

Major Investments - Southeastern Region	USD Million
Mass Transit Urban Transportation Systems	32.6
Implementation of the Urban Mass Transit Corridor - Section Parque Dom Pedro II - City of Tiradentes, MG	32.6
Ports	45.4
Port Authorities of Espírito Santo, Rio de Janeiro and Santos - Feasibility Studies and Projects for Rationalization of Port Operation and Environment Protection	5.2
Port of Vitoria Pier Structure Control	1.0
Implementation of the Defense System - The Port of Vitoria	2.0
Implementation of the Defense System - Port of Rio de Janeiro	1.8
Construction of the Administrative Center - Port of Santos	1.1
Earth Works, Access Canal – Port of Santos	3.9
Construction of Two Major Access Roads in the Port of Santos - State of São Paulo	13.0
Dredging and Deepening of the Access Canal, Evolution Basin near the Pier in the Port of Santos	17.4
Highway New Projects and Modernization	143.1
Works on Highway Connecting the City of Belo Horizonte to the Sao Paulo State Line - BR 381- State of Minas Gerais	21.3
Works on Highway Connecting the Cities of Belo Horizonte and Governador Valadares - BR 381- State of Minas Gerais	28,2
Works on Highway BR 116/SP - SP/PR	12.3
Re-dimensioning of Highway Section - Santa Cruz - Mangaratiba - BR-101 - State of RJ	26.1
Re-dimensioning the Highway Section - BR-101 State of Rio de Janeiro - Access to Port of Sepetiba	3.3
Re-dimensioning the Highway Section - BR -493 State of Rio de Janeiro - Section of BR-101 (Manilha), Access to the city of Santa Guilhermina BR116	3.8
Re-dimensioning of Highway Section - State Line MG/SP - MG/GO - BR-050 - in the State of Minas Gerais	22.6
Construction of highway section - Abadia dos Dourados - between the States MG/GO - BR-352 - in the State of Minas Gerais	10.9
Construction of highway section - State Line RJ/MG - Ilicínea - MG/SP - BR-265 - in the State of Minas Gerais	8.7
Construction of the Belt Line - South Section - city of de São Paulo	6.1
Highway Works (reconstruction)	120.8
Railroad Transportation	6.4
Re-dimensioning of a rail section in the city of Barra Mansa - State of Rio de Janeiro	6.4
TOTAL	227.5

Southeastern Region - Railroads

The Government plans on implementing works in Barra Mansa, Rio de Janeiro in order to improve safety and traffic circulation in this urban area.

Southeastern Region - Ports

At the Port of Santos in the State of São Paulo, the country's largest port, a project is underway that foresees the dredging and deepening of the access canal, evolution basin and the area next to the wharfs; all in order to enable alongside docking of larger vessels. The project also includes the investment to complete two access roads on the right and left sides of the port facilities as well as the construction of a tunnel that will connect the two sides, thereby alleviating heavy traffic that presently has to go through the city of Santos. This project should result in a 50% reduction in the cost of transporting containers through Santos.

Investments in feasibility studies, including environmental impact studies, for the deepening of the Ports of Vitoria and Rio de Janeiro are also scheduled. These studies also foresee the inclusion of building modular defenses for ships that would provide additional safety for ships during loading/unloading operations.

Southern Region



Brazil's Southern Region is comprised of three states; Paraná, Santa Catarina and Rio Grande do Sul.

Southern Region – Highways

The Government will give priority to the restoration of the existing roads. It also plans on building new bridges, tunnels, underpasses and overpasses along highway BR 101 SC, between Palhoça and Osorio to complete the MercoSul road corridor.

This project anticipates both a major reduction in the number of accidents as well as a dramatic improvement in the transportation costs along this highway. The conclusion of the works on this stretch of highway should greatly contribute to the social and economic development of the Brazilian southern and southeastern states and promote further integration of the Mercosul customs union.

Major Investments – Southern Region	US\$ Million
Warf Expansion - Port of Rio Grande, Dredging and Deepening of the Access Canal	3.0
Recuperation of Warf and Shelter in the Port of Imbituba - Santa Catarina State	6.5
Recuperation of Warf in the Port of Laguna - Santa Catarina State	8.7
Re-dimensioning of Highway BR 101 - City of Palhoça to the State Line SC/RS - State of de Santa Catarina	102.4
Re-dimensioning of Belt Lines on Highway BR 116 - State of Parana	2.9
Re-dimensioning of Highway BR 101 - State Line - Osório/RS - State of Rio Grande do Sul	83.5
Construction of Rail Detour - City of São Francisco do Sul - State of Santa Catarina	8.7
Highway Works	47.7
Construction of Railway - City of São Francisco do Sul - State of Santa Catarina	4.9
Dredging and Deepining of Access Canal - Port of São Francisco do Sul – SC	1.5
Implementation of Water Drainage System - Port of São Francisco do Sul – SC	2.2
TOTAL	272.0

Southern Region - Ports

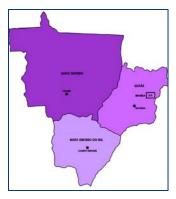
The Government of Brazil plans on major investment in the Port of Rio Grande in the State of Rio Grande do Sul. It is scheduled to extend the East Warf by 370m and the West Warf by 700m. Furthermore, this project contemplates dredging with the objective of deepening the access canal to a depth of 18.0 meters.

The Government is also scheduled to invest in the recovery of the port shelter piers at the Ports of Imbituba and Laguna, both in the State of Santa Catarina. Also in Santa Catarina, the Port of Sao Francisco do Sul will have its access canal extended and its depth increased from 12 to 14 meters.

Southern Region - Railroads

In the railroad sector, the Government plans on building a rail detour around the city of São Francisco do Sul, Santa Catarina, in order to improve safety and circulation of trains, vehicles and people.

Midwestern Region



Brazil's Midwestern Region is comprised of the states of Mato Grosso, Mato Grosso do Sul, Goiás and the Federal District (Brasilia).

Midwestern Region – Highways

In order to improve highway safety, decrease travel time, and generally improve the transportation of goods in the region, the Government plans on building two new branches

of Highway BR-158. These new branches are:

- In Mato Grosso do Sul, from Tres Lagoas to Selvia.
- From Verge, Parana to RibeiraoCascalheira, Mato Grosso.

In compliance with the newly established Plano Viario National (National Highway Plan), the Government will continue construction on a number of Highways in this region including:

Highway BR-364 in the state of the Mato Grosso

A highway connection formed by the highways BR-163/MT and BR-174/MT. This network should be build to facilitate the traffic flows generated by the hauling of soybean crops the Chapadão dos Parecis Region. It is meant to ensure the movement of grain, either by the river/road route on the Rio Madeira river to the grain terminal of Itacoatiara in the State of Amazonas or to ports in the South and Southeast parts of the state of Pará.

To promote transit fluidity, ensure safety, reduce travel times and to facilitate the transportation of agriculture products, the Government's plans include the modernization of highways BR- 060/DDF/GO, Brasilia - BR - 153/GO and BR-153/GO-Aparicida de Goiana to Itumbiara.

Major Investments - Midwestern Region	USD Million
Construction of Highway BR-158/MS Stretch Três Lagoas - Selvíria	4.3
Construction Highway BR-158/MT, State Line PA/MT - S tretch Ribeirão Cascalheira	8.7
Construction Highway BR-364/MT, Stretch Diamantino - Sapezal – Comodoro	5.6
Re-dimensioning the Highway - BR-153/GO - Stretch Aparecida de Goiânia - Itumbiara	15.2
Re-dimensioning the Highway - BR-060/DF, Stretch Brasília - State LIne DF/GO	13.0
Re-dimensioning the Highway - BR-060GO, State LIne DF/GO - BR-153/GO	24.7
Modernization of Highways	132.5
TOTAL	204.0

Other Resources

- For more information about export opportunities in this sector contact US Commercial Service Industry Specialist Ruy Baptista at: ruy.baptista@mail.doc.gov
- US Commercial Service in Brazil: www.FocusBrazil.org.br
- For more reports on this sector in other countries, please visit Export.gov's site for US Commercial Service Market Research Worldwide: http://www.export.gov/marketresearch.html
- US Ex-Im Bank: www.exim.gov
- Brazilian Ministry of Transport: www.transportes.gov.br
- National Association of Transporters: <u>www.antf.org.br</u>

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Trade Specialist Ruy Baptista, CS Belo Horizonte, wrote this report.

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